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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,432	12/31/2003	Stephen F. Smith	UBAT1110	1772
38396	7590	11/18/2005	EXAMINER	
JOHN BRUCKNER, P.C. 5708 BACK BAY LANE AUSTIN, TX 78739			BURD, KEVIN MICHAEL	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 11/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/750,432

Applicant(s)

SMITH ET AL.

Examiner

Kevin M. Burd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-67 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 8 and 12-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Blodgett (US 2003/0034834).

Regarding claims 1 and 12-18, Blodgett discloses a method and apparatus of modulating a signal to control an amplification circuit that provides a gain (paragraph 0032). Figure 6 discloses a circuit that provides a Walsh code to modulate the signal in the amplification path (paragraph 0058).

Regarding claim 8, Blodgett further discloses the attenuated Walsh codes are attenuated by factors A to a level, so they act as a dither modulated on top of its tap steering signal (paragraph 0058).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4-6, 19, 49, 53-55 and 59-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blodgett (US 2003/0034834) in view of Ishifuji et al (US 6,084,905).

Regarding claims 4-6 and 19, Blodgett discloses the method and apparatus disclosed above in paragraph 1. Blodgett does not disclose the method and apparatus comprises frequency hopping the signal. Ishifuji discloses frequency hopping a transmission signal a plurality of times within one symbol time period (column 1, lines 50-63). It would have been obvious for one of ordinary skill in the art to transmit the signal of Blodgett using the frequency hopping system of Ishifuji. By frequency hopping the transmission signal, the signal can avoid interference and allow the signal to be received with minimal errors.

Regarding claims 49, 53, 54 and 59-67, Blodgett discloses a method and apparatus of modulating a signal to control an amplification circuit that provides a gain (paragraph 0032). Figure 6 discloses a circuit that provides a Walsh code to modulate the signal in the amplification path (paragraph 0058). Blodgett does not disclose the method and apparatus comprises frequency hopping the signal. Ishifuji discloses frequency hopping a transmission signal a plurality of times within one symbol time period (column 1, lines 50-63). It would have been obvious for one of ordinary skill in the art to transmit the signal of Blodgett using the frequency hopping system of Ishifuji. By frequency hopping the transmission signal, the signal can avoid interference and allow the signal to be received with minimal errors.

Regarding claim 55, Blodgett further discloses the attenuated Walsh codes are

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attenuated by factors A to a level, so they act as a dither modulated on top of its tap steering signal (paragraph 0058).

3. Claims 2, 3, 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blodgett (US 2003/0034834) in view of Becker et al (US 6,726,099).

Regarding claims 2 and 3, Blodgett discloses the method and apparatus disclosed above in paragraph 1. Blodgett does not disclose the method and apparatus comprises spreading the signal. Becker discloses spreading a signal (column 1, lines 56-65). Using spread spectrum signals to transmit information is well known in the art. Spreading the signal helps to prevent interference from effecting a large portion of the signal. Since the information is "spread" over a large frequency band, an interference spike will only effect a small percentage of the information. When the signal is respread, error correction in the receiver can correct for this small error rather than losing data or having to have the signal re-transmitted. For this reason, it would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the spread spectrum transmission of Becker into the system and method of Blodgett.

Regarding claim 7, Blodgett discloses the method and apparatus disclosed above in paragraph 1. Blodgett does not disclose the method and apparatus comprises time hopping a signal. Becker discloses selecting the time slot to transmit the data. By altering the time slot position, the signal is time hopped (column 9, lines 31-48). It would have been obvious for one of ordinary skill in the art to alter the time slot position as shown by Becker in the method and system of Blodgett. By altering the time slot, known

periods of time where a large amount of transmission traffic that would interfere with the desired transmission can be avoided.

Regarding claim 11, Blodgett discloses the method and apparatus disclosed above in paragraph 1. Blodgett does not disclose the method and apparatus comprises transmitting the signal to a radio frequency tag and receiving a signal from the radio tag. Becker discloses transmitting an RFID tag and receiving information from the tag (figures 1 and 2). It is known to attach RFID tags to articles to be monitored (column 1, lines 41-55). This can be used for security or for inventory management. For these reasons, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the RFID transmission and reception system of Becker into the method and apparatus of Blodgett.

4. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blodgett (US 2003/0034834) in view of Taga et al (US 2003/0175033).

Regarding claims 9 and 10, Blodgett discloses the method and apparatus disclosed above in paragraph 1. Blodgett does not disclose the method and apparatus comprises modulating a polarization of the signal wherein modulating the polarization of the signal includes controlling power levels of the antennas of orthogonal polarization. Taga discloses modulating the polarization of a signal. Taga also discloses, good transmission characteristics are realized using polarization division multiplexing and VSB modulation together. Intervals of wavelengths can widen twice as much in the same transmission capacity improving resolution (paragraph 0090). Power is controlled

in the modulation (paragraph 0080). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the modulating a polarization signal taught by Taga into the method and apparatus of Blodgett for the reasons stated above.

5. Claims 20-22, 24-31, 33-35, 37-44 and 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolanek (US 5,886,573) in view of Nestler (US 5,862,069).

Regarding claims 20 and 24, Kolanek discloses a method and apparatus for amplitude modulating an output channel to provide an amplitude adjusted signal as shown in figure 1 and column 7, lines 24-35). Kolanek does not disclose using a four-quadrant amplitude multiplier. Nestler discloses prior art multipliers for providing four-quadrant multiplication for analog signals are well known. These prior art multipliers include analog and digital multipliers (column 1, lines 11-19). It would have been obvious for one of ordinary skill in the art at the time of the invention to use readily available off the shelf components such as the multiplier of Nestler in the system and method of Kolanek to minimize cost in the circuit.

Regarding claims 21, 22 and 25-31, Kolanek further discloses an equalizer in figure 1 and the equalizer comprises I and Q signals and FIR filters (column 8, lines 57-65).

Regarding claims 33-35, 37-44, 47 and 48, Kolanek discloses a method and apparatus for amplitude modulating an output channel to provide an amplitude adjusted signal as shown in figure 1 and column 7, lines 24-35). Kolanek does not disclose

using a four-quadrant amplitude multiplier. Nestler discloses prior art multipliers for providing four-quadrant multiplication for analog signals are well known. These prior art multipliers include analog and digital multipliers (column 1, lines 11-19). It would have been obvious for one of ordinary skill in the art at the time of the invention to use readily available off the shelf components such as the multiplier of Nestler in the system and method of Kolanek to minimize cost in the circuit. Kolanek further discloses an equalizer in figure 1 and the equalizer comprises I and Q signals and FIR filters (column 8, lines 57-65).

6. Claims 23, 32, 36 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolanek (US 5,886,573) in view of Nestler (US 5,862,069) further in view of Becker et al (US 6,726,099).

Regarding claims 23, 32, 36 and 45, the combination of Kolanek and Nestler discloses the method and apparatus disclosed above in paragraph 5. The combination does not disclose the method and apparatus comprises transmitting the signal to a radio frequency tag and receiving a signal from the radio tag. Becker discloses transmitting an RFID tag and receiving information from the tag (figures 1 and 2). It is known to attach RFID tags to articles to be monitored (column 1, lines 41-55). This can be used for security or for inventory management. For these reasons, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the RFID transmission and reception system of Becker into the method and apparatus of the combination of Kolanek and Nestler.



7. Claims 50-52 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blodgett (US 2003/0034834) in view of Ishifuji et al (US 6,084,905) further in view of Becker et al (US 6,726,099).

Regarding claims 50 and 51, the combination of Blodgett and Ishifuji discloses the method and apparatus disclosed above in paragraph 2. The combination does not disclose the method and apparatus comprises spreading the signal. Becker discloses spreading a signal (column 1, lines 56-65). Using spread spectrum signals to transmit information is well known in the art. Spreading the signal helps to prevent interference from effecting a large portion of the signal. Since the information is "spread" over a large frequency band, an interference spike will only effect a small percentage of the information. When the signal is respread, error correction in the receiver can correct for this small error rather than losing data or having to have the signal re-transmitted. For this reason, it would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the spread spectrum transmission of Becker into the system and method of the combination of Blodgett and Ishifuji.

Regarding claim 52, the combination of Blodgett and Ishifuji discloses the method and apparatus disclosed above. The combination does not disclose the method and apparatus comprises time hopping a signal. Becker discloses selecting the time slot to transmit the data. By altering the time slot position, the signal is time hopped (column 9, lines 31-48). It would have been obvious for one of ordinary skill in the art to alter the time slot position as shown by Becker in the method and system of the combination of

Blodgett and Ishifuji. By altering the time slot, known periods of time where a large amount of transmission traffic that would interfere with the desired transmission can be avoided.

Regarding claim 58, the combination of Blodgett and Ishifuji discloses the method and apparatus disclosed above. The combination does not disclose the method and apparatus comprises transmitting the signal to a radio frequency tag and receiving a signal from the radio tag. Becker discloses transmitting an RFID tag and receiving information from the tag (figures 1 and 2). It is known to attach RFID tags to articles to be monitored (column 1, lines 41-55). This can be used for security or for inventory management. For these reasons, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the RFID transmission and reception system of Becker into the method and apparatus of the combination of Blodgett and Ishifuji.

8. Claims 56 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blodgett (US 2003/0034834) in view of Ishifuji et al (US 6,084,905) further in view of Taga et al (US 2003/0175033).

Regarding claims 56 and 57, the combination of Blodgett and Ishifuji discloses the method and apparatus disclosed above in paragraph 2. The combination does not disclose the method and apparatus comprises modulating a polarization of the signal wherein modulating the polarization of the signal includes controlling power levels of the antennas of orthogonal polarization. Taga discloses modulating the polarization of a

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signal. Taga also discloses, good transmission characteristics are realized using polarization division multiplexing and VSB modulation together. Intervals of wavelengths can widen twice as much in the same transmission capacity improving resolution (paragraph 0090). Power is controlled in the modulation (paragraph 0080). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the modulating a polarization signal taught by Taga into the method and apparatus of the combination of Blodgett and Ishifuji for the reasons stated above.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin M. Burd  
11/16/2005

  
**KEVIN BURD**  
**PRIMARY EXAMINER**